

Methods of analytical regularization in the spectral theory of open waveguides

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Abstract

© 2014 IEEE. The theory of electromagnetic eigenwaves propagating on open dielectric and metallic waveguides is reviewed. The main steps of the theoretical approach based on analytical regularization of the problem are outlined and discussed. Generalized eigenwave problems for lossless dielectric waveguides are considered more comprehensively as examples of such approach. Some of the unsolved problems and the directions of future research are pointed out too.

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